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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,324	09/17/2003	Nicola Telecco	ATM-228	7924

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EXAMINER	
LAXTON, GARY L	
ART UNIT	**PAPER NUMBER**
2838	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H·A

Office Action Summary	Application No.	Applicant(s)	
	10/666,324	TELECCO, NICOLA	
	Examiner	Art Unit	
	Gary L. Laxton	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *16-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 8-15* is/are rejected.

7)☒ Claim(s) *4-7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of figures 1 and 2 in the reply filed on 1/10/2005 is acknowledged.

2. Claims 16-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/10/2005.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 5-7 are objected to because of the following informalities:

Claim 5 recites the limitation "the first and second current loads" in lines 18 and 19. There is insufficient antecedent basis for these limitations in the claim. Claims 6 and 7 inherit the same through dependency.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Pasotti et al (US 6,232,753).

Claim 1; Pasotti et al disclose a voltage regulator for supplying a low current load with a regulated voltage supply and a high current load with a regulated voltage supply comprising: transistor regulation means (MR-MRn) for providing a level of voltage regulation to a common supply voltage (HV) delivered to a high current load (SL1-SLn), the transistor regulation means including a control gate; and feedback regulation means (14) for providing a level of regulation to the common supply voltage (HV) delivered to a low current load (SL1-SLn), the feedback means having an output line coupled to the control gate of the transistor means whereby the output level of the feedback means influences the transistor means.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) in view of Stevens (US 4,942,312).

Pasotti et al disclose the claimed invention in regards to claim 1 supra, except for a depletion NMOS.

Stevens teaches that it is known to use NMOS depletion transistors in regulator circuits. It is also known and obvious to one having ordinary skill in the art that it is possible to substitute one type switch for another.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pasotti et al to include depletion type NMOS transistors in order to produce a stable output voltage as taught by Stevens.

9. Claims 3, 8, 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) in view of Tanase (US 6,462,526).

Claim 3; Pasotti et al disclose the claimed invention in regards to claim 1 supra, except for the feedback regulation means comprises a bandgap regulator feeding the comparator.

Tanase teach that bandgap regulators are used for supplying a reference voltage.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a bandgap regulator in Pasotti et al to provide the reference voltage input to the comparator.

Claims 8, 11, 12, 14 and 15; Pasotti et al disclose a voltage regulator comprising: a first regulator stage having a voltage reference circuit (Vref), the reference circuit having a first leg feeding a comparator (11) as a first input and a voltage divider (14) connected to the common

supply with a tap feeding back to the comparator in a second leg as a second input, the comparator having an output operating a first current driver device (MR) connected to the common supply (HV) in feedback relation to the comparator through the voltage divider, the first current driver device having a first output line carrying a first output voltage and a first current; a second current driver device (MR1-MRn) connected to the common supply voltage (HV) and operable as a voltage clamp in response to the first output voltage, thereby acting as a second regulator stage, in parallel with the first regulator stage, the second current driver device having a second output line carrying a second output voltage, less than the common supply voltage, and a second current; a first load connected to the first output voltage and to the voltage divider of the first regulator stage; a second load connected to the second output voltage of the second regulator stage and to the voltage divider; whereby the first and second regulator stages stabilize voltage variations in the first and second loads.

However, Pasotti et al do not disclose a reference circuit connected to a common supply voltage.

Tanase teach a reference circuit for supplying a reference voltage, wherein the reference circuit is supplied operating power from a supply voltage (Vin) in order to operate the reference circuit.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a reference circuit connected to a common supply voltage in order to operate the reference circuit.

10. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) and Tanase (US 6,462,526) in view of Yokomizo et al (US 6,400,211).

Pasotti et al and Tanase disclose the claimed invention in regards to claim 8 supra; except for the load circuits being oscillators or charge pump capacitors.

Yokomizo et al teach regulating voltage to a charge pump comprising capacitors (C1, C2) and providing power to an oscillator circuit (13).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pasotti et al to include a load being a charge pump and a load be oscillators in order to provide power to the devices as taught by Yokomizo et al.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasotti et al (US 6,232,753) in view of Tanase (US 6,462,526) and further in view of Nakajima (US 6,686,728) and Stevens (US 4,4942,312).

Pasotti et al and Tanase disclose the claimed invention in regards to claim 8 supra, except for a depletion NMOS transistor and the depletion NMOS having a gate connected to the first output line of the first current driver device.

Nakajima teaches driving a second transistor (Q) from the output of a first transistor (TR2) in order to constitute a base drive transistor circuit for driving the second transistor (Q).

Furthermore, Stevens teaches using depletion type NMOS transistors in a regulator circuit. It is also known and obvious to one having ordinary skill in the art that it is possible to substitute one type switch for another.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pasotti et al and Tanase to include a depletion type NMOS transistor having a gate connected to the first output line of a first current driver device in order to constitute a base drive transistor circuit for driving the second transistor to produce a stable output voltage as taught by Nakajima and Stevens.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oku (US 6,525,595) discloses a charge pump having pump capacitors and clock inputs from oscillators.

Allowable Subject Matter

13. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claims 5-7 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action supra.

15. The following is a statement of reasons for the indication of allowable subject matter:

Claim 4; prior art fails to disclose or suggest, inter alia, a voltage regulator having an output transistor connected to the output line coupled to the control gate of the transistor means.

Claims 5-7 are considered to contain allowable subject matter since prior art fails to disclose or suggest, inter alia, a voltage regulator having a comparator driving a current sinking transistor having an electrode connected to a common voltage supply and another electrode connected to a feedback path associated with the voltage divider; and a second input terminal connected to the common voltage supply connected to an MOS transistor having a gate connected to the a current load, the MOS transistor having an electrode connected to a high current load whereby the low and high current loads are supplied current from the same common voltage supply but with different voltage regulation.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4-4-05

Gary L. Laxton
Primary Examiner
Art Unit 2838